OPERATING INSTRUCTIONS

BEFORE OPERATING THE MACHINE

WARNING: *Do not attempt to operate this machine unless you have first read and perfectly understand the safety messages and instructions appearing in this manual.*

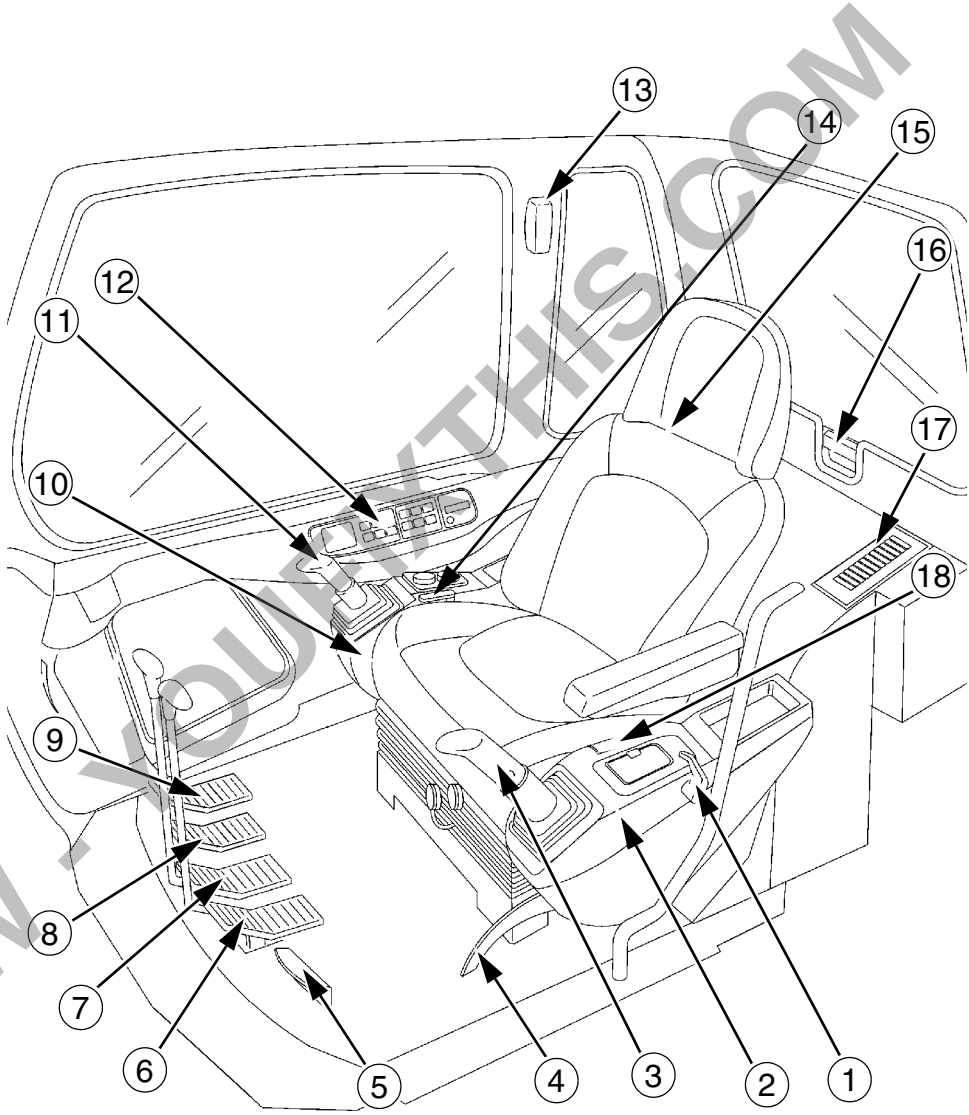
Before operating this machine, be sure to do the following :

- Check the level of all fluids (engine oil, hydraulic fluid and coolant) and make sure that the fluids and lubricants are suitable for operating conditions. See “Fluids and Lubricants” in the “Lubrication/Filters/Fluids” Section and “Operating the machine in cold weather”.
- Carry out the daily maintenance operations. See the “Servicing Intervals” Section.
- Inspect the machine, look for any signs of leakage and check the hoses. Tighten or replace as necessary. See the “Maintenance/Adjustments” Section.
- Check the track assemblies. See “Tracks” in the “Maintenance/Adjustments” section of this manual.
- Before undertaking any travel or working operations during hours of darkness, make sure the lighting and signalling equipment is fully operational.
- Clean the steps and access handles. Grease, oil, mud or (in winter) ice on the steps and access handles can cause accidents. Make sure they are kept clean at all times.
- Clean or replace any decals which are illegible. See “Decals” in the “Safety/ Decals/Hand Signals” Section.
- Make sure all hoods, side doors and lower panels are properly closed.
- Secure the cab door in either fully closed or fully opened position.
- Remove any obstructions which hinder visibility. Clean the windshield, the rear view mirror and the windows.
- Check that no tools or other items have been left on the machine (be it on the undercarriage or the upper structure) or in the operator’s compartment.
- Work out a convenient means of escape from the machine (emergency exit via the windshield, the rear window glass) in the event of the cab door being jammed or the machine turning over.
- Make sure nobody is on or under the machine. The operator must be alone on the machine.
- Make sure nobody is standing in the machine working area.
- Find out about current safety measures in use on the work site.

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OPERATOR'S COMPARTMENT CONTROLS

WARNING: *Before starting the engine, make sure that you are fully aware of the location of and the function of each control. Incorrect operation of the controls can cause serious injuries.*



BS01E104

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LUBRICATION

BEFORE OPERATING THE MACHINE

WARNING: *Do not attempt to operate this machine unless you have first read and perfectly understood the safety messages and instructions appearing in this manual.*

FLUIDS AND LUBRICANTS

Lubricants must have the correct properties for each application.

WARNING: *The conditions of use for individual fluids and lubricants must be respected.*

Respect the maintenance intervals by checking the hourmeter every day. Before starting maintenance, park the machine on flat, firm ground, away from any obstacles, with the arm retracted and the bucket on the ground. Unless otherwise specified, all maintenance operations must be carried out with the engine stopped, and the key removed from the starter switch. It is preferable to wait for all circuits to cool down before starting work. Wear suitable clothing and remember to use the necessary safety equipment.

Clean the grease fittings before lubrication. Clean around plugs and filler holes before adding fluid. No dust or dirt must enter the components or the circuits.

WARNING: *Be sure all the service operations in this section are carried out punctually at the intervals given, in order to ensure optimum performance levels and maximum safety when using the machine.*

WARNING: *There is a risk of serious injury if maintenance or repairs are not performed correctly. If you do not understand the maintenance procedures, consult your authorized LBX Link-Belt distributor.*

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SPECIFICATIONS

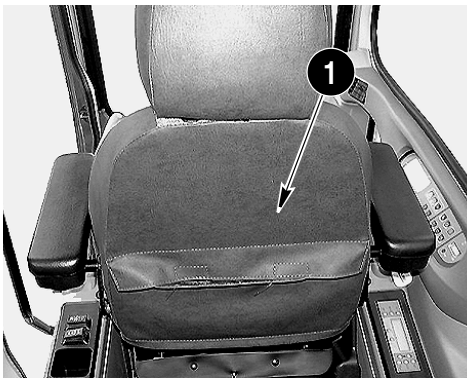
ENGINE

Model	AA-6SD1XQB
Manufacturer	Isuzu
Turbocharged	yes
Number of cylinders	6
Idle speed	1050 rpm
Bore/stroke	4.72 x 5.71 in (120 x 145 mm)
Displacement	600 cu in (9 839 cc)
SAE net horsepower - rated	316 hp (235 kW) @ 1950 rpm
Injection	direct
Injection pump	electronic
Battery start	2 12/24 volt batteries, 140 A/h
Cooling	water
Oil capacity	8.7 gal (33 L)

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⚠ SAFETY RULES ⚠

Most accidents involving machine operation and maintenance can be avoided by following basic rules and precautions. Read and understand all the safety messages in this manual, the Safety Manual, and the safety decals on the machine before you operate or service the machine. See your Authorized LBX Link-Belt dealer if you have questions.



CD00E001

1. OPERATOR'S MANUAL STORAGE

Safety messages in this section point out situations which can be encountered during the normal operation and maintenance of your machine. These safety messages also give possible ways of dealing with these conditions.

Additional safety messages appear in the manual to indicate specific safety hazards.

READ THIS MANUAL COMPLETELY and make sure you understand the characteristics of speed, stability, steering, and operation of this machine.

Do not remove this manual or the safety manual from this machine. See your LBX Link-Belt dealer for additional manuals. Also see the inside of the rear cover of this manual for detailed information for ordering manuals.

The safety information given in this manual does not replace safety codes, insurance regulations, or federal, state/provincial, or local laws. Make sure your machine has the correct equipment according to these rules or laws.

IMPORTANT: *The safety messages in this section point out situations which can happen during the normal operation and maintenance of your machine. These safety messages also give possible ways of dealing with these conditions.*

⚠ **WARNING:** *This safety alert symbol indicates important safety messages in this manual. When you see this symbol, carefully read the message that follows and be alert to the possibility of personal injury or death.*

M171B

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460 LX EXCAVATOR



BD02B015

TO THE OWNER

Your machine has been designed and built to the highest standards of quality. It conforms to all current safety regulations. However, the risk of accidents can never be completely excluded. That is why it is essential to observe elementary safety rules and precautions. Hazard control and accident prevention are dependent upon the awareness, concern and prudence of the operator. Personnel involved in the operation, transport, maintenance and storage of equipment must be suitably trained.

Read this manual carefully, paying particular attention to the instructions concerning safety, operation and maintenance so as to avoid the risk of injury while operating or servicing the machine.

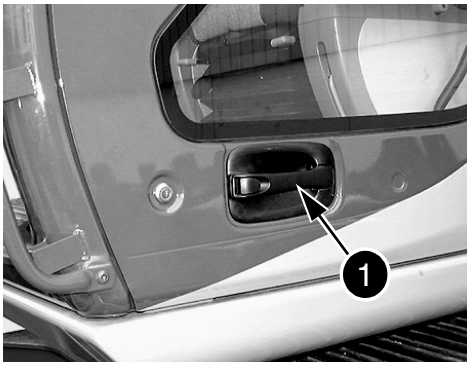
Use this manual as a guide. Your machine will remain a reliable working tool provided it is kept in good working condition and serviced properly.

The standard attachments and equipment available for use with this machine are intended for general earthmoving purposes, material rehandling, ditch cleaning, etc. If the machine is to be used for handling loads, (concrete pipe sections, shoring material, etc.), make sure the machine is suitably equipped for this type of work.

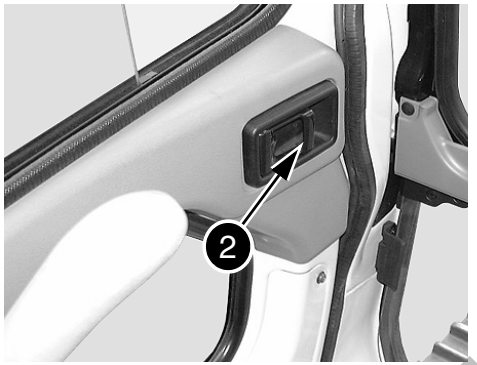
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INSTRUMENTS/CONTROLS

CAB DOOR



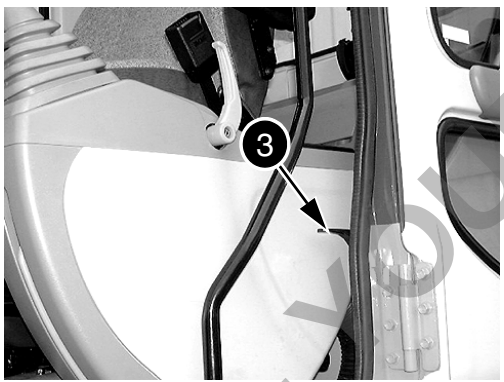
CD00E002



CD00E003

To open the door, use the handle (1) from the outside and use the handle (2) from the inside.

NOTE: *Use the starter switch key to lock the door.*



CD00E004

The door can be latched completely open. To unlatch the door, tilt the lever (3) downwards.

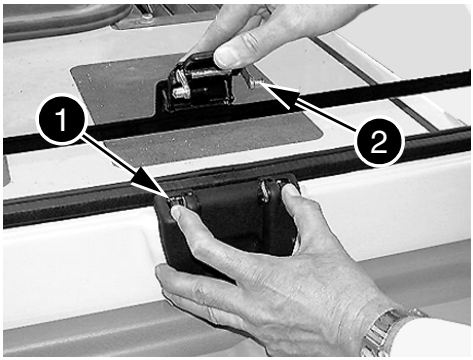
WARNING: *Be careful not to get your hand or anything caught in the door when closing it.*

WARNING: *Do not leave the door ajar. Fix it in a latched position.*

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Closing

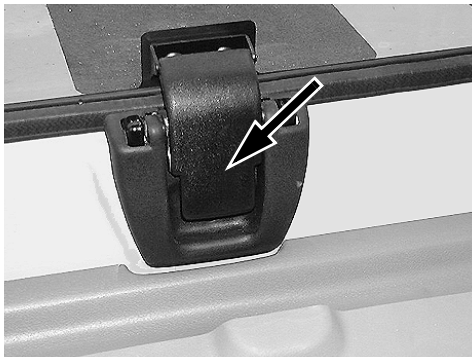
STEP 1



CD00E026

Press the locking studs (1), bring the pin (2) into its housing and then release the studs.

STEP 2



CD00E024

Fold the handle back into position.

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SELF-DETACHING COUNTERWEIGHT (OPTIONAL)

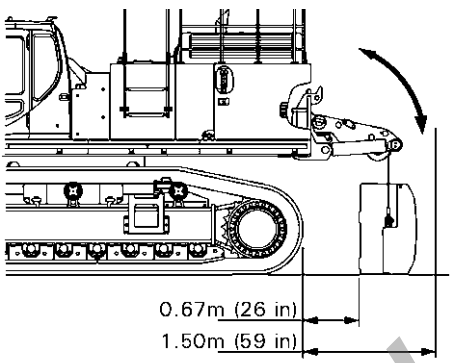
IMPORTANT: *When handling the couterweight:*

- The machine must be on flat, hard, level ground.
- The upperstructure must be in line with the undercarriage with the travel reduction gears to the rear.
- The dipper and bucket must be retracted as far as possible and then lowered to the ground.
- Engine speed must be at low idle.
- The function cancellation lever must be in raised position with the safety bar in inward position.

IMPORTANT: *It is strictly forbidden to remain within the counterweight handling area.*

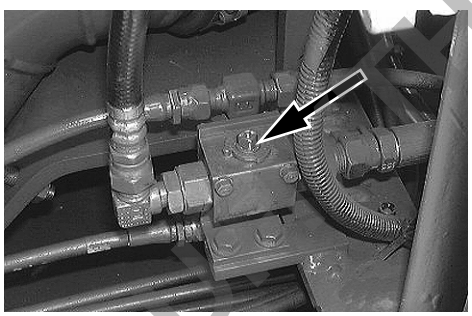
REMOVAL

NOTE: Counterweight moving distance is 1.50 m maximum and 0.67 m minimum (59 in maximum and 26 in minimum), measured from the tracks.



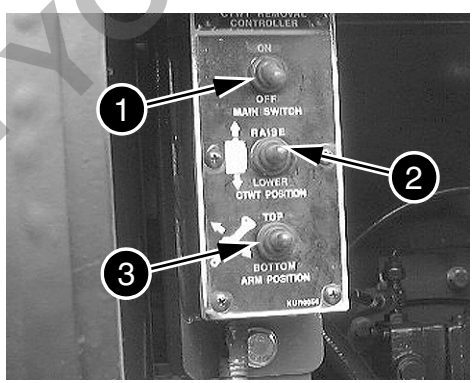
BS02B048

1. Make sure there is nothing under the counterweight.
2. Remove the lower panel (under the engine) and then remove the two bolts holding the counterweight on the inside.
3. Open the engine hood and remove the two bolts holding the counterweight on the upper side. Close the hood.



CD01D036

4. Open the supply valve.



CD01D035

5. Place the control box switch (1) in "**ON**" position.

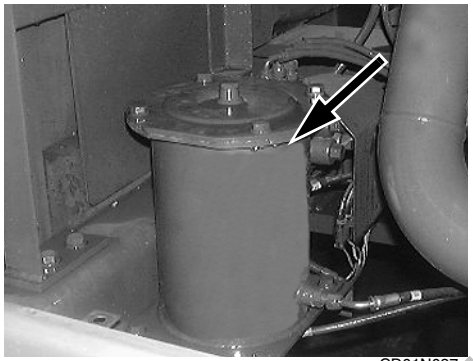
NOTE: Engine speed will automatically rise to 1700 rpm.

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7. Check O-ring (2) and replace it if worn or damaged.
8. Install the cover (1).
9. Repeat steps for the second filter.
10. Check the level of the hydraulic fluid and add more if necessary. See “Filling the reservoir”.

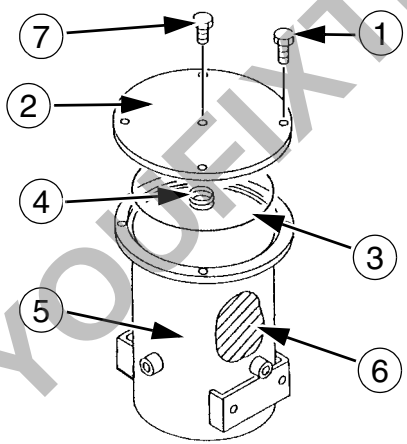
NEPHRON FILTER REPLACEMENT

1. Release all pressure in the hydraulic reservoir. See page 151.



CD01N037

2. Clean the top of the filter with solvent.



CI98M236

3. Remove the four cover bolts (1) and remove the cover (2), O-ring (3) and spring (4).
4. Carefully lift the old filter element (6) out of the body (5).
5. Use a clean cloth and clean out the filter body (5).

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CONNECTING BOOSTER BATTERIES

WARNING: *Before carrying out any service work on electrical system components, turn the starter switch key to the "OFF" position. When disconnecting batteries, always disconnect the negative (-) cable first. When reconnecting batteries, always connect the negative (-) cable last.*

WARNING: *Connecting auxiliary cables incorrectly or short-circuiting batteries terminals can cause an accident. Connect auxiliary starting cables as per the following instructions.*

Make sure that the voltage of the booster batteries is the same as that of the machine system (24 volts).

1. Remove the terminal covers.
2. Connect the positive (+) cable to the positive (+) terminal on the first machine battery.
3. Connect the negative (-) cable to the negative (-) terminal on the second machine battery.
4. Start the engine.
5. Remove the booster battery negative (-) cable and then the positive (+) cable.
6. Install the terminal covers.

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